(CEM No. 9 Continued)

SAFETY CORRECTIVE ACTION:

STORAGE OF CATHODE RAY TUBES

1. It is required that cathode ray tubes be enclosed when received, transported, or otherwise moved from area to area. If they are shipped in a carton, they must be in the original carton or one of equivalent strength and securely sealed to prevent accidental opening. Also, original or equivalent packing material and/or forms must be placed inside the carton to give the tube the proper support and protection. If tubes are transported in a unit or piece of equipment, the equipment must be able to contain the glass fragments should an implosion occur.
2. CRT's should be stocked as per directions on manufacturer's carton. When in doubt, stock with faceplate (viewing surface) down. Cartons should not be stacked more than two high.
3. CRT storage areas will be away from normal flow of material handling equipment and pedestrian traffic. Also, storage areas must be dry to insure that cartons will not absorb moisture and collapse.

MAINTENANCE AND INSTALLATION

1. No one shall be permitted to install, adjust, maintain, replace or handle high vacuum tubes until he/she has reviewed this CEM.
2. When cathode ray tubes are received, transported, or otherwise moved from area to area, they should be completely enclosed in their original shipping carton and sealed.
3. To minimize the hazard from flying debris, safety glasses and long sleeve garments must be worn.
4. Tubes under vacuum will not be permitted to remain out of their carton unless they are under test or inspection.
5. Avoid scratching or bumping any part of the tube because this may weaken the glass and possibly cause it to implode.
6. Prior to removal of any high vacuum tube, discharge all stored potential which may exist on the tube's anode button or base socket pins and the capacitor in the high voltage supply. (NOTE: Some cathode ray tubes contain a conductive coating on both the inside and outside surfaces to form a capacitor. Within some tubes, a second capacitive charge builds up following the original discharge. It is, therefore, important to discharge each tube a second time immediately before removal.)
7. Do not handle cathode ray tubes by the neck alone. The neck is the weakest part of the tube and is easily broken. Always handle tubes with two hands. If the CRT is shipped with a lifting strap, this strap should be used for the removal of a tube from, and placement of a tube into, the shipping container.
8. When inserting or removing tubes from equipment, they must be supported by the large end while carefully guiding the neck in or out of position. The lifting strap, if present, can be used in this process.
9. Avoid placing the tubes on a table or bench when there is any possibility of the tube rolling. If it is necessary to place a tube anywhere except in its special carton, a piece of felt or other soft material should be placed under it to prevent scratching the glass. Place larger tubes vertically on their faces, and not on their sides to prevent the possibility of rolling.
10. When removing a tube from equipment, it should be enclosed in its shipping container as soon as possible to reduce the chance of breaking. Cathode ray tubes should be placed in the carton with the large face end up and the neck down. Be sure that the weight of the tube is not resting on the neck. The container should be sealed securely with strong tape and, to prevent tipping, turned over so the tube is positioned face down.

DISARMING CATHODE RAY TUBES

Field personnel should not disarm cathode ray tubes. Tubes will be disarmed and disposed of in accordance with existing Environmental Protection Agency requirements at the plant of return or established disposal site.

DISPOSAL OF CATHODE RAY TUBES

Return CRT's to the branch office. Instructions for the disposal of cathode ray tubes are available in FE I/D letter 081-021. In the near future, the same information will be available in a CSD Safety/Health Reference booklet which will be distributed to all CSD Branch Offices.

10 SAFETY 10-20-82

SUBJECT: GROUND INDICATOR, P/N 9900453

The Ground Indicator, P/N 9900453, may render a false sense of security in some situations. Therefore, the use of the tool should be discontinued.

Use a meter when it is necessary to check a receptacle. (Reference "Electrical Safety Handbook, S229-8124.")

11 SAFETY 5-18-83

SUBJECT: ELECTRICAL SAFETY – OUTDOOR COMMUNICATION CABLES

PURPOSE:
To help protect service personnel, IBM equipment that is hardware connected by outdoor communication cables should not be serviced during periods of lightning activity.

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